



Best Practice in Policy Package Design

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Best Practice in Policy Package Design

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Abstract

This deliverable focuses on the identification and analysis of best practice examples of policy package design. For this purpose a methodology is developed that allows the systematic analysis of both national and EU policy packages. Eight packages were selected and analysed, highlighting the factors which supported the design and implementation process in each case. The results of the analysis show which factors led to these cases to be considered best practice. In addition, factors are identified which are not yet part of the generic policy packaging framework presented in earlier OPTIC Deliverables. The consideration of these factors will help to further improve the framework in the subsequent work packages.

Executive Summary

The successful design and implementation of policy packages (i.e. a combination of individual policy measures to reach one or more goals) is a great challenge. It also offers the chance to avoid unwanted effects which may arise from the introduction of single measures. It is the goal of the OPTIC project to identify and develop methodologies that support the design process of policy packages. Building on the output of the previous three work packages, a methodology was developed for the identification of best practice and a subsequent systematic analysis of selected policy packages.

Eight national and EU transport related policy packages are identified as potential best practice examples. The four national policy packages are the London and Stockholm congestion charging schemes, the distance related heavy vehicle fee introduced in Switzerland and the Danish Government Transport and Environment Scheme. For the EU the four packages are the Directive on interoperability of conventional and high-speed railways, the Action Plans on Urban Mobility and for the deployment of Intelligent Transport System in Europe as well as Directive on the promotion of clean and energy-efficient road transport vehicles.

During the analysis different aspects of the policy making process are examined for each of the case studies. The aspects cover the objectives and goals of a package, primary measures and causal assumptions, inter-measure interaction, design process, technical and financial consideration as well as barriers and unintended effects. While the Directive on the promotion of clean and energy-efficient road transport vehicles is considered to be the overall best practice example, based on the analysis, all other policy packages exhibit features which make them best practice in one or more of the dimensions, used in the analysis.

The analysis also highlights aspects which could be considered during the design and implementation of policy packages which have, so far, not been part of the generic policy packaging model formulated in Optic's Deliverable 1 and modified in Deliverable 2. The recommendation given here will contribute to the work in the following work packages and help improve the framework for policy design.

1 Main objectives and structure of the deliverable

The main goal of this report is to identify and describe real-world best practice examples in transport policy package design in order to establish common success factors and draw general conclusions for the policy design process.

In order to reach these goals the following steps will be carried out:

- development of a methodology to identify successful transport policy packages (see chapters 2.1 and 2.2);
- selection of national and EU policy packages to be analysed (chapters 2.3 and 3);
- analysis of policy packages (case studies) based on methodology defined above (chapters 4.1 and 4.2);
- identification and description of best practice in package design (chapter 4.3);
- recommendations for adjusting the policy package framework based on the results of the analysis (chapter 5).

As shown in Figure 1-1, this deliverable, which is the output of OPTIC's Work Package 4, draws on the contributions from previous work in the OPTIC project. The methodology developed and described in this deliverable is based on the 'ideal' framework for policy packaging presented in Deliverable 1. However, some changes were made compared to this 'ideal' process, which are elaborated in this document. The contributions made in this deliverable will feed into OPTIC's Work Package 5 (Barriers for and good practises of implementation) and Work Package 6 (Synthesis of package optimisation, policy recommendation and transferability). For Work Package 5 it will provide a first analysis of policy packages and implementation procedures. A selected subset of these packages will be analysed in depth with special emphasis on the topics addressed there. For Work Package 6 the outputs of this deliverable will provided a link between the generic framework set up in Work Package 2 and the real life processes observed in the case studies.

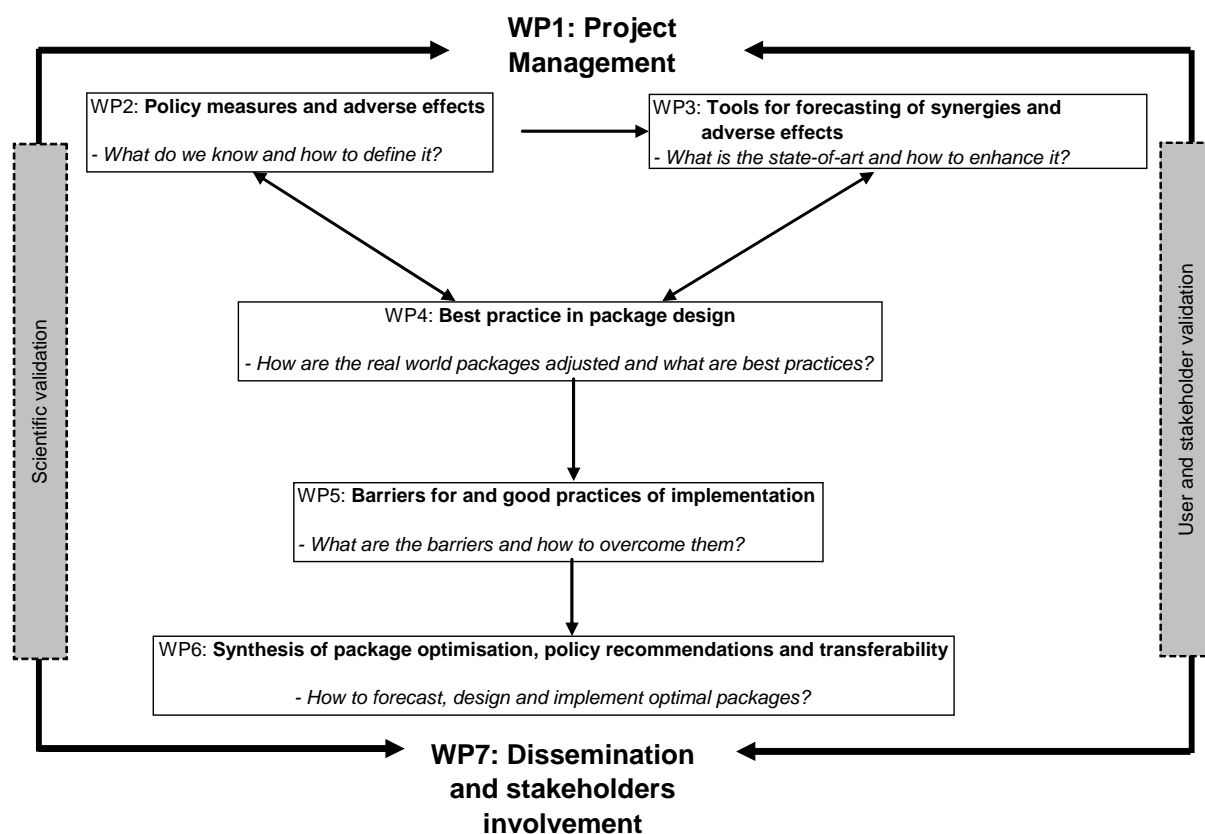


Figure 1-1: Structure of OPTIC project

Chapter 2 presents the approach used for analysis of policy packages. This approach uses the generic policy design process described in TSU Oxford et al. (2010) as a starting point for setting up a systematic approach: The analysis is carried out for different dimensions, relevant for the policy design process as well as for the identification of best practice. In chapter 3 a description of different policy packages, selected for analysis, is given.

Chapter 4 deals with the evaluation of the policy packages on the level of the different dimensions defined in chapter 2. Common factors and main differences are discussed and conclusions and recommendations are made for each dimension. Chapter 5 discusses implications of our empirical findings on the policy packaging framework. The results and conclusions are summarised in chapter 6. The template of the methodology used for the analysis of policy packages is given in Appendix 1 and a list of policy packages, considered for the analysis, in Appendix 2.

2 Analytical framework and selection of policy packages

2.1 Theoretical approach

The notion of ‘best practice’ is increasingly commonplace in contemporary public policy. Indeed, ‘best practice’ approaches to policy formulation, implementation and evaluation are seemingly advocated by a diverse array of policy actors at almost all jurisdictional scales (Macmillen, 2009; Stead, 2009; Vettoretto, 2009). On a European scale, for example, the identification and dissemination of best practice has unquestionably played a lead role in the White Paper of the European Commission on European Transport Policy for 2010 (EC, 2001) and in the mid-term review (EC, 2006). A number of European research initiatives, too, have sought to promote best practice in EU transport policy, such as the thematic network BEST¹ (Benchmarking European Sustainable Transport) carried out from 2000 – 2003 in the 5th framework programme, SUGAR² (Sustainable Urban Goods Logistics Achieved by Regional and Local Policies) in the INTERREG 4C Programme and PROMIT³ (Promoting Innovative Intermodal Freight Transport) in the 6th Framework programme from 2006 – 2009). Also supporting the exchange of ‘best practice’ information and expertise are a number of dedicated electronic platforms, such as ELTIS⁴ (European Local Transport Information System), OSMOS⁵ (Open Source for MObile and Sustainable city) and EPOMM⁶ (European Platform for Mobility Management).

At the outset of this chapter, then, it is worth outlining and critically reflecting upon the theoretical approach followed in this deliverable—specifically, clarifying the function of the ‘best practice’ concept in the analysis and situating this concern for ‘best practice’ within a broader methodological framework. As noted in the previous chapter, the principle objective of this deliverable concerns the identification of best practice examples of real-world policy packaging in order to inform and support subsequent policy packaging efforts. Although the term ‘best practice’ is used in numerous senses, the Oxford English Dictionary broadly define it as ‘a mass noun, chiefly used in business: the practice which is accepted by consensus or prescribed by regulation as correct; the preferred or most appropriate style’ (OED, 1989, p. n/a). With its roots in industrial manufacturing, management consultancy and the pioneering work of Frederick W. Taylor in the United States, ‘best practice’ essentially refers to the most effective and efficient way of achieving a particular objective or task. This might refer to a methodology, tools, processes or any other means that are employed to reach a goal.

In order to identify instances of ‘best practice’, so-called ‘benchmarking’ procedures are routinely employed by analysts. Widespread in the private sector, benchmarking essentially enables actors to appraise organisations’ operations/processes against those of peer

¹ <http://www.besttransport.org/cadrebest.html>

² <http://sugarlogistics.eu/>

³ <http://www.promit-project.net/index.htm>

⁴ <http://www.eltis.org/Vorlage.phtml?sprache=en>

⁵ <http://www.niches-transport.org/index.php?id=73>

⁶ <http://www.epomm.eu/>

organisations in order to examine, identify and emulate particular strengths and thus improve performance. In the context of this deliverable, we seek to evaluate the merits of various real-world examples of policy packaging against the ‘benchmark’ represented by the generic policy packaging model set out in Deliverable 1. This evaluation will explicitly address a number of relevant criteria, derived from the generic model, and outlined in Section 2.2.

To all intents and purposes, this is qualitative, case study research that seeks to produce *intensive* knowledge concerning the workings of causal processes in a set of substantively-related cases. Unlike *extensive*, statistically-supported knowledge, therefore, no attempts are made at inductive generalisation (see Sayer, 1992). Rather, the focus is directed toward comparative analyses of general policy mechanisms and processes of policy packaging. Importantly, in analysing the various cases to be studied (see Section 2.3), the deliverable does not seek to identify particular real-world examples of policy packaging as ‘best practice’ cases *per se*. Rather, the intention guiding the analysis is to uncover *elements* in the respective cases that correspond favourably with corresponding elements in the aforementioned generic policy packaging model. For example, it may be the case that a certain case exhibits poor levels of policy effectiveness, but nevertheless may represent best practice with respect to inter-measure interaction.

The perspective taken throughout the deliverable is that of an impartial analyst. It is, of course, recognised that various normative viewpoints can be taken with respect to the evaluation of packages’ merits. However, the discussion is underpinned by the conviction that the cases can be interpreted and evaluated against *a priori* criteria in a technical, instrumental sense. This supports reasoned judgement as to whether elements of the cases can genuinely be considered to represent ‘best practice’ and, related, whether they support effective and efficient policy-making.

2.2 Evaluation criteria

As noted, the analytical framework followed in this deliverable is derived from the generic policy packaging model outlined in Deliverable 1 (TSU Oxford *et al.*, 2010, pp. 51-72).⁷ For the identification of best practice in policy packaging, selected policy packages were analysed using the template shown in Appendix 1—itself derived from the dimensions of the generic model. The template allows for comparative, systematic analysis of different policy packages in order to support the generation of broader conclusions on policy package design. Because the nature of different policy packages can differ considerably from each other, there are a series of open-ended questions in the template that facilitate extensive description. As shown in Figure 2-1, the template is structured around five key thematic dimensions, together with ‘general introduction’ and ‘overall conclusions’

⁷ This generic model was slightly revised in Deliverables 2 and 3. Deliverable 6 will contain the final version.

General Description
1. Objectives and goals
2. Primary measures and causal assumptions
3. Inter-measure interaction
4. Policy design process, technical and financial considerations
5. Barriers and unintended effects
Overall conclusions

Figure 2-1: *Dimensions for identifying best practice in policy packaging*

Each of these five dimensions has a number of associated criteria. Some of these criteria relate to outcomes and goal achievement, whereas others relate to procedural concerns pertaining to package design and implementation. It was deemed necessary to reflect upon both forms of criteria in order to support the in-depth analysis presented in Chapter 4. A range of different data sources were drawn upon in the analysis. These included official publications, policy documents and other documentation from public and private organisations pertaining to each case, relevant academic literature concerning each case and, in some cases, semi-structured interviews with key actors involved in the policy packaging process.

The remainder of this section will now discuss the key criteria associated with each dimension in the analysis. These criteria are then briefly summarised in Table 2.1.

Dimension 1 – Objectives and goals

This dimension involves four core criteria: *clarity*, *measurability*, *effectiveness* and *compatibility*. In order to be able to judge whether a policy package is good practice or not the objectives and goals must be clear. Indeed, the importance of setting clear policy objective and targets at the outset of the policy packaging process was stressed throughout Deliverable 1 (TSU Oxford et al., 2010, p. 101). In this context, an objective refers to a general aim of a policy package, such as reducing the adverse environmental impacts of freight transport across the Alps. Goals – or targets – on the other hand are considered to be more concrete and, importantly, *measurable*. For example, a particular goal might be a 20 % modal shift from road freight within a decade. Such measurability is crucial if the effectiveness of policy packaging efforts are to be meaningfully evaluated. Effectiveness of a package *per se* is naturally a highly important criterion for identifying best practice; the achievement of stated goals provides a strong indication of overall package performance. Finally, packages may be evaluated with regard to their compatibility with other policy objectives and goals from secondary policy domains. For example, at an EU level, packages showing sensitivity to parallel financial, environmental and equity considerations may demonstrate elements of best practice.

Dimension 2 – Primary measures and causal assumptions

Three criteria are associated with this dimension: *breadth and diversity of potential measures*; *accuracy of causal assumptions*; and *accuracy of distributional effects*. The generic policy packaging model outlined in Deliverable 1 involves the creation of a broad and diverse array of potential policy measures, the selection of primary measures and explication of the effects that these primary measures are likely to have on the policy environment in question. Accuracy in *ex-ante* estimation of causal mechanisms and distributional effects is thus a vital foundation for successful policy packaging. A systematic approach to the analysis of interventions' distributional effects (including acceptability effects) may involve variations on procedure termed 'actor assessment' (Feitelson, 2009). The value of such an approach is that it supports decision-makers and analysts in developing tailored strategies for coping with the varying interests, beliefs, positions and power held by affected stakeholders and so-called 'formal authorities' (TSU Oxford et al., 2010, p. 64).

Dimension 3 – Inter-measure interaction

Three criteria are associated with inter-measure interaction: *exploitation of potential synergistic relationships*; *mitigation of potential contradictory/redundant relationships*; and *skilful incorporation of tools and methods for quantitative and qualitative assessment*. As additional – or 'secondary' – measures are formulated in tandem with a primary measure, the complexity of policy packages increases substantially. If correctly incorporated, additional measures have the potential to function synergistically with primary measures—leading to increased effectiveness and/or efficiency. However, if such measures are incorporated without due regard for their interaction, redundant and contradictory relations between measures may result. Redundant measures make no effectual contribution to the policy package beyond that already provided by existing (primary or additional) measures. Such redundancy clearly leads to unnecessary administrative costs and further entails that packages run the risk of becoming overly large and complex, at the expense of effectiveness, efficiency and flexibility (OECD, 2007). Contradictory measures produce conflicting outcomes or incentives, which mean that they are 'at odds' with the purpose of other (primary or additional) measures. Therefore, minimisation of the presence of such measures can help to increase effectiveness, efficiency and flexibility of the final policy package.

For primary measures, for secondary measures as well as for their combination it is crucial to have profound *ex-ante* knowledge on the potential impacts in order to avoid unintended effects as much as possible. So, a skilful use of tools and methods for an *ex-ante* assessment of the effects of measures and of their combinations is of utmost importance for a successful packaging progress. This includes a meaningful integration of structurally open, rather qualitative methods (workshops, interviews, stakeholder consultation etc.) and structurally-closed, quantitative assessments, such as modelling tools and forecasting techniques, multi-criteria analyses and cost-benefit analyses. Transparent and reflexive application of these tools and methods can greatly improve *ex-ante* activities and warrant

strong consideration as criteria for best practice as discussed in Deliverable 2 (DLR and KIT, 2010, pp. 18-35).

Dimension 4 – Policy design processes

Two criteria are associated with this dimension: *financial viability* and *stakeholder engagement*. The financial viability of an intervention is one of the key aspects in successful policy package design and is highly contingent upon accurate anticipation of policy costs and revenue-generation. Miscalculations here may be closely linked to any technical difficulties that may have been encountered which were not adequately anticipated. The involvement of different stakeholders in the policy design process can often provide useful external perspectives on a policy issue. As noted by TSU Oxford et al (2010, p. 102), “stakeholders have unparalleled insight into the nature of the transport systems as they are manifested in everyday personal and business practices. Hence, their knowledge of the subtleties and nuances of the transport system may well create a much richer and more detailed causal map of the policy intervention in question”. Hence, stakeholder involvement in the policy design process may help to identify possible future problems and unintended effects in advance. In addition, it may facilitate public acceptability. However, such contributions to policy-making can be guided by private agendas and stakeholder involvement must be managed in a specific and strategic manner.

Dimension 5 – Barriers and unintended effects

Two criteria are associated with the fifth dimension: *ex-ante mitigation of barriers and unintended effects*; and *ex-post package flexibility*. Indeed, a major justification for the creation of policy packages is their capacity to prevent or minimise certain adoption/implementation barriers and various unintended effects (cf. Deliverable 5, forthcoming). When done competently, this can lead to significant effectiveness and efficiency benefits. On the other hand, as it is impossible to consider all eventualities in advance, it is important that the policy package is flexible enough to allow for *ex-post* review and adaptation of package design, goals and even objectives. Such flexibility represents one of the key factors in successful policy packaging, and can facilitate rapid adaption to ever-changing policy environments.

Analytical dimension	Associated evaluative criteria
(1) Objectives and goals	<i>Clarity of objectives and goals; Measurability of goals; Effectiveness against goals; Compatibility with parallel objectives/goals.</i>
(2) Primary measures and causal assumptions	<i>Breadth and diversity of potential measures; Accuracy of causal assumptions; Accuracy of distributional effects.</i>
(3) Inter-measure interaction	<i>Exploitation of potential synergistic relationships; Mitigation of potential contradictory/redundant relationships; Skilful incorporation of quantitative and qualitative assessment.</i>
(4) Policy design process	<i>Financial viability; Stakeholder engagement.</i>
(5) Barriers and unintended effects	<i>Ex-ante mitigation of barriers and unintended effects; Ex-post package flexibility.</i>

Table 2-1: *Evaluative criteria for identifying best practice in policy packaging*

To summarise, the analysis undertaken in this deliverable is comprised of three main phases. Firstly, selected policy packages are analysed individually using the criteria specified above. This analysis provides a detailed overview of how the different policy packages were designed, how effective and efficient they appear to have been and which elements of the packaging outcome or process can be considered as best practice. Second, comparative analysis is undertaken, where the selected cases are compared and contrasted. This analysis is performed against each analytical dimension of interest, and seeks to highlight common factors and themes of interest which arise in the selected cases (as shown in Figure 2-2). Finally, conclusions and recommendations are made for each dimension, and the empirical evidence generated is used to appraise the viability of the generic policy packaging model developed in Deliverable 1.

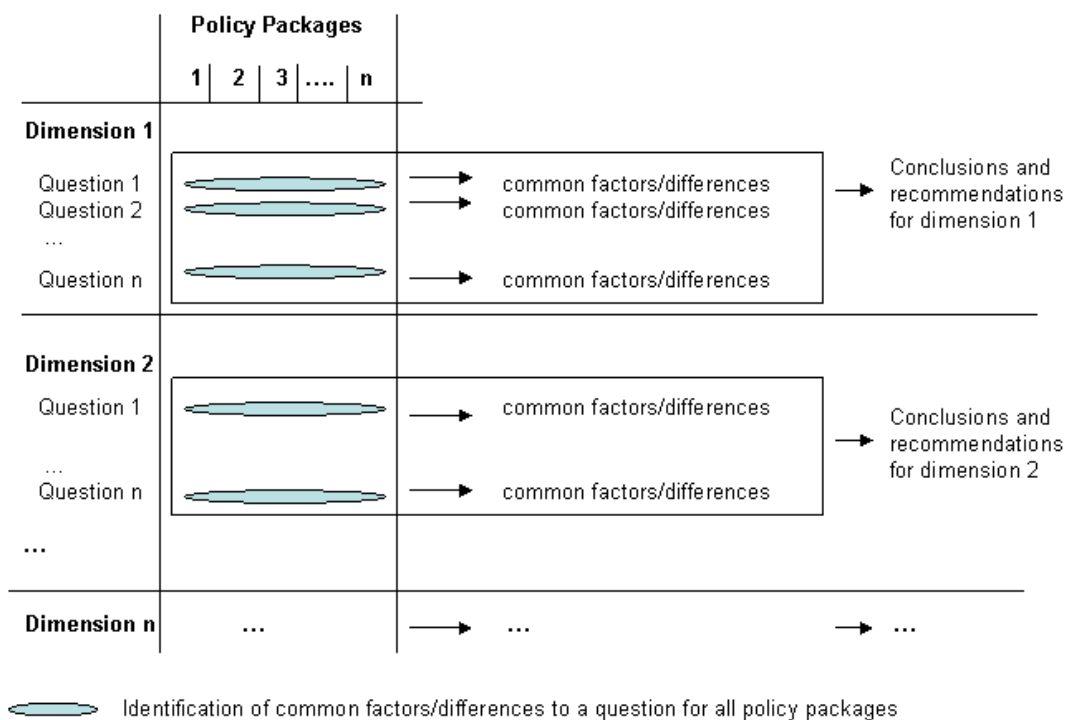


Figure 2-2: Approach for analysis of policy packages

2.3 Case selection

In order to derive the greatest descriptive and explanatory benefit from the analysis in this deliverable, it is necessary to concentrate attention upon a few strategically-selected cases. For both intellectual and practical reasons, such an in-depth focus is far more appropriate for identifying instances of best practice than a shallower, broader focus. Initial scoping exercises identified 34 potential cases for analysis, as listed in Appendix 2. Seventeen of these cases concerned policy packaging activities at the EU level, with the remainder concerning national-level activities amongst member-states and EEA nations.

Some common themes are immediately evident in both national and EU policy packages, such as sustainable mobility or traffic safety. Most of the EU policy packages are related to top-down communications, especially action plans or action programmes, which propose a number of different actions in specific areas. There are also five regulations and four directives. The oldest of the EU policy packages is the Single European Sky material, dating from 1999. However, many of EU policy packages were introduced in 2009, meaning that their respective implementation processes are too recent for the meaningful assessment of goal achievement. On the other hand, the design of these EU packages has usually followed a long development process, where many different steps were performed. Hence, a lot of valuable knowledge about policy package design can be inferred from them. In terms of transport modes, a number of the EU policy packages are related to railway and road transport. Some policy packages deal with inland waterways or aviation. There are also

packages focused on information services, intelligent transport systems or optimising of transport infrastructure (e.g. TENT-T infrastructure aids).

The national policy packages are, on average, older than the EU packages. The oldest is Danish policy package *Government Transport and Environment Scheme* (1992) and the newest is the *Norwegian National Transport Plan* (2009). Most of the national policy packages concern national or local transport strategies, such as the *Lund Sustainable Mobility Strategy* (Sweden) or the *Czech National Cycling Strategy*. Pricing schemes also feature heavily, such as congestion charging, emission related taxation and a heavy vehicle fee legislation.

Selection principles

In order to decide, which of these 34 cases were the most suitable policy packaging examples for an in-depth analysis, three broad principles were followed. First, there was an explicit need to ensure **package veracity and maturity**. As defined in Deliverable 1, the OPTIC project considers a *bona fide* policy package to be ‘a combination of individual policy measures, aimed at addressing one or more policy goals. The package is created in order to improve the impacts of the individual policy measures, minimise possible negative side effects, and/or facilitate measures’ implementation and acceptability’ (TSU Oxford et al. 2010, p. 53). As such, the selected cases for analysis must represent *genuine* policy packages rather than simply ‘assemblages’ of individual policy measures that exhibit coincidental spatial and temporal co-presence as the result of other political or societal processes (*ibid.*). Moreover, the policy packages selected for analysis should have reached a level of maturity where meaningful analysis is possible. Ideally, the implementation stage should be completed and an indication of outcome—whether the package has reached its goal(s) or not—should be available. However, once a policy package has been introduced, information relating to its design process is often not readily available. For this reason this principle was exercised moderately, especially when dealing with EU policy packages.

Second and somewhat related to this, there was a need to ensure that analysis of selected cases would be **sufficiently informed** with respect to both goal achievement and the packaging process. Hence, selected cases ought to be the subject of discussion in a range of official publications, policy documents and other literature as well as the subject of accessible expert knowledge through primary research.

Third, and equally importantly, the selected cases must together exhibit a degree of **modal, scalar and functional heterogeneity**. In other words, while the case study approach does not seek to be representative in an inductive sense, it is beneficial—where possible—to select examples of policy packages which are concerned with different modes of transport (e.g. road, rail, etc.), different types of policy measures (e.g. directives, legislation, programmes) and different operative scales (e.g. urban, national, supra-national).

Selected cases

Having considered the 34 shortlisted cases against these three selection principles, eight policy packaging examples were chosen for analysis in this deliverable. These cases are all

considered to represent genuine, mature policy packages and, together, address a range of different modes, measures and scales.⁸ The cases are especially orientated to urban mobility and sustainable transport, reflecting the predominance of the road sector in transportation. Nevertheless, most of these packages include measures supporting public transport or modal shift to more environmentally-friendly forms of transport. Three of the national-scale policy packages concern road pricing and attempts to reduce congestion and the adverse effects of freight haulage. At the European scale, two action plans and two directives are included, together concerning a range of distinct issues such as interoperability and intelligent transport systems. The eight cases are summarised in Table 2-2 and subsequently described in more detail in chapter 3.

Policy package	Country	Date introduced	Transport mode
Danish Transport and Environment Scheme	Denmark	1992	Multi-modal
Directive on Rail Interoperability	EU-wide	1996	Rail
Distance-related Heavy Vehicle Fee in Switzerland	Switzerland	2001	Road, Rail
London congestion charging scheme	United Kingdom	2003	Road
Stockholm congestion charging scheme	Sweden	2005	Road
ITS Action Plan	EU-wide	2008	Multi-modal
Urban Mobility Action Plan	EU-wide	2009	Multi-modal
Directive on the promotion of clean and energy-efficient road transport vehicles	EU-wide	2009	Road

Table 2-2: *Policy packages selected for analysis*

⁸ The final three policy packages listed in the table are relatively recent, and thus not sufficiently mature enough to allow for a consideration of goal achievement. Nevertheless, they have been included as they were considered highly informative with respect to procedural concerns in policy package design.

3 Overview of policy packages

This chapter provides an overview and description of the eight selected policy packages.

3.1 London congestion charge

The London congestion charging scheme was implemented in February 2003. It consisted of a congestion charge on motor vehicles (exempt for taxis, motorcycles, buses, emergency vehicles, vehicles for disabled people with blue badges, and certain vehicles with cleaner emissions) driving in a limited central zone in London. Residents living within the zone were given a 90 % reduced charge, but all other vehicles had to pay £5 per day when entering the zone between 7 am and 6.30 pm Monday-Friday (excluding bank holidays and public holidays). The congestion charge was accompanied by a number of transport measures, e.g. improved and expanded bus services, bus priority on main routes within and around the charging zone, etc. Improvements were also planned for the underground regarding frequency and reliability. In addition, traffic management measures related to road maintenance and locations for displaced traffic among other things were introduced (Leape, 2006; TfL, 2003).

The scheme was initiated by Mayor Ken Livingstone. Livingstone launched the proposal as part of the 2001 Transport Strategy for London (Dix 2002). At that time the idea of introducing a congestion charge in central London had already been discussed for a couple of years and was further supported by a study on road charging options for London carried out 1998. In 1999, the new Great London Authority Act put the mayor in the position of a key executive for the Greater London Authority. Transport for London (TfL), which is a local government body and part of the Greater London Authority, had a key role in the formulation and implementation of scheme.

The objectives of the scheme were to reduce congestion, improve bus services, improve journey time for cars and make the distribution of goods and services more reliable, sustainable and efficient. In addition, the scheme should generate net revenues to help improve transport in London (TfL, 2003). Initially, there were no quantified goals named in the Transport Strategy for London which led to criticism in the consultation round that followed the presentation of the strategy. As a result, a few more clearly defined targets were presented. The congestion charging scheme was expected to lead to a reduction of total traffic (measured in vehicle miles) within the charging zone by 10 – 15 %, an increase in traffic speeds of 10 – 15 % and a reduction of congestion (measured in vehicle delays) by 20 – 30 %. However, as noted in a report from the Transport Committee in December 2002, the Mayor and TfL did not say when they expected to reach these targets.

Most directly affected stakeholders were residents, and travellers in London, local business and other organisations/institutions in the central parts of London, commuters, etc. Several of these stakeholders were very concerned about the initial proposal to implement congestion charge, and got involved in the early discussions about the design of the scheme (for instance the London boroughs, business groups, transport operators, motoring organisations, disabled groups etc.). After presenting the draft Transport Strategy in January

2001, where the congestion charging scheme was launched, there was another round of consultation among the public, stakeholders and other interested parties.

When evaluating the results of the London congestion charge, it is important to separate between initial effects and long-term effects. Initially, the congestion charge led to a decrease in congestion of around 30 %, and also a drop (-27 %) of the number of cars coming into central London and, overall, to a significant change in the composition of London traffic. For instance a large reduction (-34 %) of private cars, a slight reduction of commercial traffic, a sharp rise of taxis (up to 22 %), buses (up to 21 %) and bicycles (up to 28 %) (Leape, 2006, using data from TfL from 2006).

During the last few years, however, it seems that the congestion charge has turned out to be less effective in terms of congestion reduction. In their monitoring report TfL (2008) stated that (at least for the western extension) the traffic levels are lower than before but the congestion indicators are similar to the pre-extension levels (after an initial slight reduction). This was stated as one of the reasons for Mayor Johnson's decision in October 2010 to remove the western extension. In the original central London charging zone, congestion intensified in 2007 to levels identical to those of 2002, and there was no further change in the early months of 2008.

3.2 Stockholm congestion charge

The Stockholm congestion charge is a Swedish national tax on motor vehicles entering or leaving the inner city of Stockholm. The tax is levied on vehicles passing in or out between 6:30 and 18:29, Monday to Friday (no tax on weekends and public holidays). The tax for one passage amounts to 20, 15 or 10 SEK (around 2, 1.5 or 1 EURO) depending on the time of the day with a maximum tax of 60 SEK (around 6 EURO) per day. Emergency vehicles, diplomat cars, motorcycles, foreign vehicles, and military vehicles are exempted. Initially, also alternative fuel vehicles ("environmentally friendly cars") were exempt, but this exemption is currently being phased out. Disabled persons may apply for an exemption (Gullberg and Isaksson 2009). The policy package was first very unpopular with the major stakeholder (residents, commuters, local businesses) but when during the trial the positive effects became visible, these attitudes changed very quickly (ibid; Stockholms stad, 2006).

The Stockholm congestion charge was first implemented as a trial from January to July 2006. The introduction was supported by a number of other measures, for instance increased capacity in bus service and in the underground system – starting from August 2005 and onwards. The trial was the basis for a public referendum in Stockholm in September 2006. After the positive outcome of the referendum, the congestion tax was then introduced on a permanent basis in August 2007 (Richardson et al, 2010; Isaksson and Richardson, 2009).

The initiative to the trial was taken by three political parties (the social democrats, the green party and the left party) as a result of local and national government negotiations after the election in September 2002. Thereafter, a range of national, regional and local (Stockholm) authorities were involved in the design and implementation of the scheme: City of Stockholm was mainly responsible for the design of the scheme, but formally, it had to be introduced as a new legislation by the Swedish national parliament. The development of the policy

package was characterised by a complex interplay between different actors. The City of Stockholm, the Swedish parliament, the Swedish government, the Stockholm County Board (as responsible for public transportation) and the Swedish National Road Authority played a key role in the negotiations as well as in the implementation. In addition, special experts on congestion charging were involved as external consultants and formal or informal advisors to policy makers (Gullberg and Isaksson, 2009).

The congestion tax trial had several targets: decrease traffic and congestion, enhance accessibility and improve the environment. When the congestion tax was introduced on a permanent basis in August 2007, there was a new centre-right government which reformulated these goals slightly. The new goals were to enhance accessibility, improve the environment and finance new road infrastructure in the Stockholm region (Richardson et al, 2010).

The Stockholm congestion charge led to an initial congestion reduction of 24 %, but after two months it stabilised at around 22 % and remained at that level during the whole trial (Stockholms stad, 2006). Since the introduction of the permanent scheme, the congestion reduction has stabilised at around 18 %. The slight increase of congestion compared to the trial is being explained mainly by an overall increase of traffic in the region and the increasing number of alternative fuel vehicles (Stockholms stad, 2009).

3.3 Distance-related Heavy Vehicle Fee

The distance-related heavy vehicle fee (HVF) of Switzerland is a policy where road vehicles heavier than 3.5 tonnes are charged a fee based on tonne-kilometres travelled and emission category, irrespective of the type of road used (SVAG, 1997). It was introduced in 2001 with the goals of achieving a modal shift of heavy goods transport from road to rail, limiting the number of truck trips to 650,000/year in 2009 from nearly 1,500,000 in 2000, strengthening the position of railway by different programmes and internalisation of full costs for the calculation of the heavy vehicle fee.

As a policy package it combines number of measures in the road and rail sector (Krebs and Balmer, 2010). Besides introducing a fee for road transport, it focuses on strengthening the rail sector by designating parts of income generated to the funding of specific projects.

The introduction of the HVF was made possible by a number of developments. The basis were two votes carried out in 1994 which approved the introduction of a distance related vehicle fee (in replacement of the already existing flat fee) and the Alpine Initiative which demanded a shift of transalpine goods transport for road to rail. In 1998 the Land Transport Agreement between EU and Switzerland was negotiated. Here it was decided that the EU accepts a distance related vehicle fee, which uses external costs as a calculation base while Switzerland agrees to increase the weight limit from 28 t to 40 t. This was confirmed in another referendum carried out in the same year. Major opposition was voiced by the Swiss Road Transport Union (ASTAG), however, once the vote was carried they supported the parties involved in the introduction of the HVF.

Implementation of the HVF was carried out within two years by the Swiss Custom Administration (EZV) who is also now responsible for the administration of the fee together

with the Federal Office for Spatial Development (ARE) and the Federal Department of the Environment, Transport, Energy and Communication (UVEK). Implementation was considered successful by all parties involved and no technical problems were encountered. Revenues and costs developed as expected, taking variations due to various economic developments into account.

The goals for this policy package, which are financing rail projects, achieving modal shift from rail to road and reducing the number of vehicles crossing the Alps from 1.3 million to 650 thousand, were only partially achieved. Rail financing (with special focus on tunnels) was carried out as planned. Modal shift from road to railway was only partially achieved which is to some extent due to the already high share of freight transport on rail in Switzerland. The reduction of vehicle crossings could not be achieved, although the introduction led to a slight decrease, stopping the upward trend experienced before. The target date for achieving this reduction was moved to 2019, two years after the opening of the Gotthard Tunnel (GVVG, 2008).

The policy itself is well documented and a large number of studies were carried out, before, during and after the introduction of the legislation. In addition, the results of the policy package are regularly monitored.

3.4 Government Transport and Environment Scheme

Between 1992 and 1995, a Government Transport and Environment Scheme (Danish T&E Scheme) existed in Denmark. The aim was to make the large urban municipalities establish and implement local transport and environment action plans and thereby contribute to the fulfilment of national environmental and traffic safety objectives (Grell and Gudmundsson, 1992; Møller, 1992; Planstyrelsen, 1992). The policy package consisted of three main elements: information activities, state-municipal partnerships and a State Transport and Environment Pool subsidising up to 50 % of projects that would help municipalities implement local transport and environment action plans.

The Spatial Planning Agency was the main author of the package, and it was designed in a relatively closed process, mainly including other governmental ministries: the Ministries of Environment, Transport and Finance. However, a number of external stakeholders were also involved to some extent, including the Traffic Safety Commission⁹, Local Government Denmark¹⁰, some municipalities, and transport consultancy companies.

When the package was prepared, more measures were considered, however not in a systematic, written and public form. Not all relevant aspects were considered by policy makers, and there were no considerations as to primary and secondary measures. The process itself cannot be characterised as best practice. Nevertheless, the outcome of the decision making process was a policy package with a sensible content, which actually – according to the evaluation – mainly achieved the goals (PLS Consult and Flyvbjerg, 1998).

⁹ The Traffic Safety Commission is appointed by the Danish Ministry of Justice. The Commission consists of a representative from each of the political parties in Parliament, representatives from the Danish Ministry of Justice and the Ministry of Transport, as well as representatives from a number of interest organisations.

¹⁰ Local Government Denmark is an interest organisation for the Danish municipalities.

During the implementation process a number of barriers of economic, institutional and political nature were encountered (PLS Consult and Flyvbjerg, 1998, pp. 100-102, 147). The barriers did not invalidate the implementation of the package, but they limited some of the intended effects. The municipalities were encouraged in their planning efforts to deal with six topics: traffic accidents; energy consumption and CO₂-emissions; air pollution; traffic noise nuisance; road and rail as barrier for movement; and improving of the visual environment. However, in action plans and measures the municipalities mainly focused on traffic safety (and noise abatement) and only few municipalities incorporated energy consumption and air pollution.

The policy package is an example of a package which was developed step by step, in a prolonged process including also steps backwards, and there was no single decision covering all aspects of the package. Rather the package was created by a number of decisions between 1987 and 1991. For most decision makers these decisions were not considered as a package until the Spatial Planning Agency established and published the elements as a package in March 1992. When the Agency did that, the design possibilities were bound by the previous decisions, and the agency could not necessarily combine the package as they found it most appropriate.

The scheme was evaluated in 1998, and the evaluation was reasonably positive, stating that the scheme “has reached its goals within a number of areas, while other areas still cannot be described as satisfactory”¹¹. The satisfactory aspects included a contribution to place issues of transport and environment on the municipal political agenda and to increase the municipal skills regarding technical issues, coherent and long-term planning, and involvement of the public. Only limited data on actual environment and traffic safety effects were available for the evaluation. Where available, in particular considerable traffic safety effects were found, but also other intended effects. In 1998, two thirds of all larger, urban municipalities had established a local transport and environment action plan, of which 51 had obtained support from the State Transport and Environment Pool, thereby contributing to 136 specific, local projects (PLS Consult and Flyvbjerg, 1998, pp. 7-17).

3.5 Directive on interoperability of conventional and high-speed railways

In accordance with broader European Union objectives concerning the development of a cohesive, liberalised pan-European transport network, significant EU legislation has been passed in recent decades that seek to increase the degree of rail interoperability between Member States (Holvad, 2009; EC, 2001). Legislative efforts—in the form of official EU Recommendations, Directives and Regulations—have sought to ensure that common technical and operational standards are adopted across the Union, applicable to both high-speed and conventional rail networks. Numerous institutional actors have been involved in developing and implementing a range of specific measures dealing with rail interoperability. However, the main parties involved in the early design were the European Commission DG

¹¹ All quotations in Danish are translated by the authors.

TREN (now DG MOVE) and the European Association for Railway Interoperability (AEIF)¹². The latter organisation enabled rail industry stakeholders to participate in policy-related discussions, although such actors were not party to the final policy design.

EU Directive on Rail Interoperability represents a coherent, calculated policy intervention that simultaneously addresses several different policy targets. Indeed, although 'interoperability' appears as a relatively singular, overarching objective, in practice its achievement remains contingent upon satisfactorily addressing several distinct and complex problems. The policy interventions aimed at facilitating interoperability thus have to simultaneously address both 'structural' sub-systems—pertaining to infrastructure specifications, rolling stock design, energy supply and communication technologies—and 'regulatory' subsystems—pertaining to maintenance standards and various management practices. As a result, the core measures underpinning the interoperability intervention can be very different in character and involve different actors.

Early decisions taken by the EC and AEIF led to the adoption of Directive 96/48/EC by the Council, which laid the foundations for the interoperability of the high-speed rail network. This was done through the definition of various 'Technical Specifications for Interoperability' (TSIs), designed to ensure the safe and uninterrupted high-speed rail passage between Member States. Directive 96/48/EC was later complemented by two further major pieces of legislation: Directive 2001/16/EC, a supplementary, technical directive which extended the interoperability mandate to the conventional rail network, and Directive 2004/50/EC which brought together and amended these previous directives, primarily focussing on speeding up the implementation of interoperability standards and aligning the interoperability mandate with parallel directives on rail safety. Amendments to these directives have led to the adoption of Directive 2008/57/EC, the most recent piece of interoperability legislation (for an overview see Holvad, 2009). Although not explicitly indicated in the interoperability legislation, these periodic ex-post amendments and its evolving nature also serve to illustrate the extent to which the relevant policy-makers follow an iterative approach to interventions' formulation and implementation; key characteristics of a bona fide policy package. A setback in the policy package is that certain specifications of the policy change over time, which makes it hard for member states, rail operators and manufacturers to keep up with these changes. For example, rolling stock has a 40-year life span. However, with interoperability technical specifications changing every two to five years, the policy implementation becomes financially difficult for manufacturers as well as operators. More effort should have been put on the institutional design and the licensing and certification fees. While the legislative goals concerning EU rail interoperability are achievable in a relatively short period, the technical and structural changes needed to realise such goals require a much greater time period in order to be successfully integrated into member states' national circumstances - often requiring considerable planning, investment, manufacturing and construction of new systems and infrastructure.

¹² In 2006, AEIF's role later became amalgamated into the newly-formed European Railway Agency.

3.6 Action plan for the deployment of Intelligent Transport Systems in Europe

The Action Plan for the deployment of Intelligent Transport Systems (ITS) of the European Commission was introduced in 2008. It includes six priority areas for action, which are further split up and connected with specific actions and target dates, ranging from 2009 to 2014 (CEC, 2008b). Although this timeframe constitutes a short to medium time perspective the action plan aims at building a long-term vision, defining the role ITS will play in the future road transport system in Europe. A wide range of different tools and methods for impact assessment have been used in a rather deliberate and transparent way during the process of designing of the action plan.

The European Commission under the lead of the Directorate-General Mobility and Transport (DG MOVE) and other involved services¹³ assessed different strategies and actions which could be undertaken to improve the deployment of ITS for roads and their interconnections with other modes of transport (CEC, 2008a). This led to the development of an “Action plan for the deployment of Intelligent Transport Systems in Europe” with the focus on road transport. The general objective of the initiative is “to create the conditions and, in particular, to put in place the necessary mechanisms to foster the uptake of ITS services and applications for road transport and their interconnections with other modes of transport in order to have ITS contributing at its full potential towards the various EU policies.” (CEC, 2008a). Specific objectives are the improvement of interoperability, building of an efficient cooperation mechanism between all ITS stakeholders and answer for privacy and liability issues.

Notable in the action plan is its use of various tools and methods for the early detection of expectable (un)intended effects of political decisions. In preparation for the action plan an ex-ante impact assessment was conducted to examine the options for action regarding ITS and to consider their probable effects. Different scenarios were developed; models such as TRANSTOOLS were used for quantitative assessments. The impact assessment served as the basis for the action plan and the accompanying legislative framework. A wide range of stakeholders have been involved as well as, on a smaller scale, the wider public in form of an online survey. This consultation process is well documented and accessible for the public. The documentation includes “reflexive” elements, pointing at the potentials but also at the limits of the tools and methods used for the assessment. Goals and objectives are defined in a clear and transparent way.

Notable on the action plan is its use of various tools and methods for the early detection of expectable (un)intended effects of political decisions. In preparation for the action plan an ex-ante impact assessment was conducted to examine the options for action regarding ITS and to consider their probable effects. The impact assessment served as the basis for the action plan and the accompanying legislative framework.

The action plan uses input from various previous research projects and development programmes on ITS like the studies on the impact of intelligent safety systems in road vehicles (SEISS, 2005 and eIMPACT, 2008) or the eSafety initiative which has developed a roadmap fostering smart road safety technologies. Input was further collected by the

¹³ SG, DG ECFIN, DG EMPL, DG ENTR, DG ENV, DG INFSO, DG RTD, DG TAXUD and JRC

stakeholder consultations through 13 interviews with public authorities, industry partners and other interested parties. Using these first observations on challenges hampering the wider deployment of ITS two public workshops were organised to consolidate the findings, to group and specify problem areas and potential actions. In addition Member State delegates dealt with specific potential actions at a meeting in Brussels. For a wider consultation of the public a questionnaire based survey was done with questions relating to current and future development of ITS. The results were made available online on the European Commission's homepage.¹⁴

Accompanying the input of the public and stakeholders, an inter-service group consisting of representatives of the nine Directorates-General concerned was created and met several times to provide inputs for the impact assessment. As legal instrument to set up this framework for the action plan, a Directive was chosen in favour of a regulation which was seen as too prescriptive and not addressing the individual needs of the Member States.

Implementation progress will be documented in a report in 2012, where existing areas will be reviewed and potential new priority areas or actions examined. In the meantime the Directive proposed in 2008 was put in place and approved by the European Parliament as the new legal framework for ITS on 6. July 2010¹⁵. The Directive lays down that specifications have to be adopted by the Commission within the next seven years to address the compatibility, interoperability and continuity of ITS solutions across Europe. In addition a European ITS Advisory Group will be established to bring together ITS stakeholders and provide advice for the Commission on business and technical aspects of ITS implementation and deployment.

3.7 Action plan on Urban Mobility

The Action Plan on Urban Mobility was published in September 2009 by the European Commission and sets up a coherent framework for EU initiatives in the area of urban mobility (EC, 2009a). In order to support the preparation, the European Commission organised extensive stakeholder consultation. Part of this was a written consultation, which started with the publication of the Green Paper on Urban Mobility on 25 September 2007 and closed on 15 March 2008. Interested parties were invited to respond to the Green Paper and to the 25 questions included in it. In total, 431 contributions were received by the European Commission during the consultation period. Most of contributions were from citizens and national associations. Other stakeholders involved were European/global associations, knowledge/education institutions, local/regional governments, national governments, private sector companies etc. (ECORYS, 2008).

The objectives of this Action Plan are to promote integrated policies, put a focus on citizen, greening of urban transport, strengthening of funding, share experience and know-how and optimise urban mobility. It proposes twenty measures to encourage and support local, regional and national authorities in developing of sustainable urban mobility policies that help

¹⁴ http://ec.europa.eu/transport/road/consultations/doc/2008_03_26_its_results.pdf

¹⁵ <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/891&format=HTML&aged=0&language=en>

to achieve general EU objectives. The proposed actions are centred on six themes mentioned above responding to the main messages that emerged from the Green Paper consultation. They will be implemented through existing EU programmes and instruments. Particular attention is paid to the mobility needs of vulnerable groups such as elderly, low-income groups and persons with disabilities, whose mobility is reduced due to a physical, intellectual or sensory disability or impairment, or as a result of age (EC, 2009a).

The plan proposes short- and medium-term practical actions to be launched progressively from 2009 until 2012. In 2012 the Commission will conduct a review of the implementation of this Action Plan and will assess the need for further action (EC, 2009a). The implementation of this policy package is *on-going* but no unintended effects have been reported so far. The preparation of this policy package was based on a broad debate with wide range of stakeholders and the European Commission continues to discuss with them, which should minimised unintended effects.

3.8 Directive on the promotion of clean and energy-efficient road transport vehicles

The European Parliament and the Council of the European Union introduced the Directive on the Promotion of Clean and Energy Efficient Road Transport Vehicles (Clean Vehicle Directive) in 2009, which aims at a broad market introduction of environmentally-friendly vehicles by addressing purchases of vehicles for public transport services (EC, 2009b). The directive aims especially at influencing the market for energy-efficient vehicles such as passenger cars, buses, coaches and trucks, by ensuring a level of demand that is substantial enough to encourage manufacturers and industry to invest in and further develop vehicles with low energy consumption, CO₂ emissions, and pollutant emissions (EC, 2009b, p. 6). Member States must ensure that, from 4 December 2010, all contracting authorities, contracting entities and operators within the scope of the Directive, when purchasing road transport vehicles, take into account the operational lifetime energy and environmental impacts. These impacts must include at least the following: energy consumption, emissions of CO₂, emissions of NO_x, NMHC and particulate matter and apply at least one of the options set out in this Directive (EC, 2009b, p.9).

The directive is based on the results of wide stakeholder consultation to the Green Paper on Urban Mobility. More than 900 respondents took part in public consultation, both citizens and organisations. Experts from thirteen EU countries contributed to the Joint Expert Group on Transport and Environment Meeting (PwC Advisory, 2007, Annex 1). A number of possible measures were proposed during the consultations. Some of them were discussed in more detail and screened by measuring effectiveness, efficiency and consistency. In order to find the best solution, an impact analysis aimed at a quantitative estimation of the impacts produced in alternative scenarios for the public fleets' procurement all over the EU-25 area was conducted (PwC Advisory 2007, p. 25). Five different scenarios were compared through environmental impact analysis and cost-benefit analysis. The analysis covers all vehicle categories, i.e. passenger cars, light duty vehicles, heavy duty vehicles, buses and coaches. The analysis showed that the Internalising Lifetime External Cost policy options (optional or mandatory) are based on a sound methodology and were the most environmentally and

economically effective (PwC Advisory, 2007, p. 45). The final policy package consists of following measures, which concern different road transport modes: mandatory inclusion of lifetime costs for energy consumption, CO₂ emissions, and pollutant emissions as award criteria in the procurement of vehicles for public transport services, methodology for the calculation of operational lifetime costs, adaptations to technical progress and exchange of best practices.

The directive was published and came into force in 2009, but the transposition started on 4 December 2010 (European Parliament, 2009). Every two years the Commission will prepare a report on the application of this Directive and on the actions taken by individual Member States to promote the purchase of clean and energy-efficient road transport vehicles. Those reports will assess the effects of this Directive and the need for further action (European Parliament, 2009, p, 10).

4 Searching for best practices: Investigating success factors

In this chapter we will analyse to what extent the eight policy packages actually represent best practice examples, and if so, identify factors contributing to their success. The analysis goes through each of the five dimensions that constitute the main elements of a policy packaging process, as elaborated in TSU Oxford et al. (2010) and indicators elaborated in chapter 2.2. We assess to what degree the elements were actually present in the eight selected policy packages and to what degree they contributed to success.

All the policy packages were described and analysed according to a common template presented in Appendix 1. Although the policy packages do not necessarily have to comply with all criteria in order to be identified as successful, each package offers interesting aspects of the design process of importance for the analysis of best practices. Of the four EU packages, three were introduced between 2008 and 2009 which is too recent to evaluate their effectiveness. However, from a policy design point of view, all three were considered to be good example of how to conduct such a process. The fourth EU policy package (Directive on Rail Interoperability) was introduced in 1996 and is a policy that is still evolving. This reflects the complexity of the issue involved and, despite a number of setbacks and delays encountered since then, is nevertheless considered to be efficient for dealing with the issues involved. Of the four national policy packages, three involve pricing schemes, while one deals with the implementation of local transport and environment action plans.

In the following section, we will examine what can be learned from these different policy packages. A main goal is to highlight common factors for each dimension and criteria. In cases where these cannot be found this will be highlighted as well as those cases where no conclusive response could be obtained. The chapter continues to present factors that emerged as central in each individual case, but that was not part of our original set of indicators. And finally, we summarise the analysis and conclude the chapter by pointing out factors that collectively can be said to constitute examples of best practice in policy packaging.

4.1 Different types of policy packages

As seen in chapter 3, the eight policy packages vary among several attributes of importance for our analysis. Two dimensional attributes, however, appear to be particularly important when comparing and analysing the policy packages, trying to identify the various factors of importance for their success. Firstly, the packages vary in terms of *complexity*, both in terms of institutional complexity (number of organisations and governmental levels involved in decision-making and implementation processes) and in terms of complexity in the number of measures involved, and whether these are target-oriented, process-oriented or both (e.g. whether the measures are directly aiming at influencing a certain target, such as a congestion charge, or whether the measures are policy plans aiming for a direct measure at another decision making level or stage).

Secondly, the packages vary according to the *type* of primary measures involved. This refers to whether the measures involved are legal (a directive), economic (a charge) or

planning/procedural (an action plan). As we shall see, it also varies to what extent it is possible to localise primary measures in the packages, and the types of measures may differ at different levels in the most complex packages that include both indirect and direct measures; e.g. an incentive may be primary measure at national level, aiming at influencing regional governments to make use of plans or charges as primary measure at regional level.

The analysis of policy packages are further complicated by the fact that some of the packages encompass both institutional complexity and different types of measures at different policy levels at the same time, making it more difficult to evaluate and pinpoint the exact factors contributing to their success. This calls for a certain caution when generalising the findings from one case to another, and underlines the importance of viewing the best practices identified in the light of the dimensional attributes addressed above. This will be a part of the concluding analysis of this chapter.

4.2 The selected policy packages and criteria analysis

4.2.1 Dimension 1: Objectives and goals

Dimension 1 considers criteria relating to clarity of objectives and goals, measurability of goals, effectiveness against goals and compatibility with parallel objectives/goals. All the examined policy packages have stated their objectives and goals. However, the extent and degree of operationalization, as well as the acknowledgement and contribution to overall policy goals, vary with the type of policy package examined. While the local policy packages of London and Stockholm are examples of rather clear and distinct objectives and goals, and selected primary measures (congestion tax), the policy packages on the EU and national level put relatively more weight on acknowledging and complying with overall strategic goal achievement. On a local level, the policy packages goals are better operationalized both in relation to magnitude and time frame, and especially those dealing with road charging. This makes it easier to evaluate goal achievement. This also allows monitoring during and after the implementation of the policy package. On the EU level the starting point of such a problem definition often lies well ahead of the formulation of a policy package, as was the case in the transport sector with the writing of the white paper (EC, 2001) on transport. On a national basis, EU legislation is often the enabler for national policies, and thus more general in nature, setting directions for future policies. One major impact of EU policy packages is their potential to support a coherent European approach to an identified problem rather than having an individual, and often incompatible, solution for each country.

Review of a policy package after implementation is important. On the one hand it can show how well the policy package has worked. On the other hand it offers the opportunity to adapt the implemented policy. Three of the EU policy packages will be reviewed in the coming future. The Clean Vehicle Directive will be reviewed every two years, both EU Communications will undergo a review and the Directive on Rail Interoperability is an ongoing evolving policy. On a national level the examples for UK and Switzerland undergo regular reviews and the Stockholm example was reviewed continuously both during the trial period and after the permanent scheme introduction. The reviews might lead to changes in the packages, but more often with regard to the intensity of the policy than altering its

fundamental constituent elements (re-packaging). This is found both in the local cases, with increases of London congestion charge, and in the EU rail interoperability package, where a rail traffic management system went from being optional to mandatory for key rail corridors. The character of the packages (the combination of measures), however, are more seldom subject to adjustments, as they often are the result of political negotiations and compromises.

When it comes to best practices according to the dimension of objectives and goals, it seems like all our packages have elements that justify their inclusion in the analyses. The indicators, however, seem most prominent in the Directive on the promotion of clean and energy efficient road transport vehicles, The ITS Action Plan, and in Directive on Rail Interoperability, and to a lesser extent in the Distance related Heavy vehicle fee in Switzerland and the Danish T&E scheme.

4.2.2 Dimension 2: Primary measures and causal assumptions

In this section we consider the breadth and diversity of potential measures, and the alleged accuracy of their causal assumptions and distributional effects. The generic model of policy packaging outlined in Deliverable 1 involves the creation of a broad and diverse range of policy measures before deciding on the primary and secondary ones. And all our selected packages have included discussions of a variety of policy measures when deciding on the actual content of the package. However, the distinction between primary and secondary measures is less clear cut in real world politics, and the choice of the primary intervention, or measure, is more often the result of (rather closed) political negotiations than profound analysis of causal relationships.

In our selections of packages, this is perhaps more evident for packages on the EU-level than for the local ones, although the political negotiation processes are common across all cases. For the EU policy packages this may lie in the fact that even if they already are on the level of a directive, normally have to be translated into national law where, depending on the local circumstances, additional or supportive measures can be decided upon. The opinion of what is primary measure and what is a secondary measure may very well differ between actors. From the proponent's point of view of a policy package this concept is very helpful to start a discussion process which often is the presentation of a number of options which are then narrowed down and/or expanded.

This is also found in the national packages where some notion of secondary measures can be identified, as in the Danish T&E scheme. These measures play an important role in ensuring the success of a policy package and, in some cases, may be just as important as the primary measures as they often must be translated into primary measures at lower decision making levels (e.g. from the national to the local level as in the Danish case). Such multi-level policy packages open up for wide stakeholder involvement and decision making processes, where issues of efficiency may be weighed against issues of political acceptability at all the affected levels of policy making. A similar approach was used for defining and selecting measures for the chosen EU policy packages. The list of potential measures is by the nature of the documents in an action plan much longer than in a directive. Although all the EU policy packages acknowledged objectives of other policy

domains, they did not extensively consider potential impacts of the measures outside of the transport domain.

The lack of explicit notion of causal assumptions and clarity about the choice of primary measures is also found in the national policy packages. Although the congestion charge in both London and Stockholm has a long political history, the selection of the primary measures is pretty much the result of rather “closed” decision making processes and political compromises in the Stockholm case (the trial) and the authority of the Mayor in the London case. When first decided, however, the combination of further measures is often subject to more clarity about causal assumptions and testing. Even though this surely has a positive impact on the efficiency of the packages, the clarity of the supplemented measures was also a matter of political acceptability. This is perhaps most evident in the Stockholm case, where synergies needed to be proved in order to get public acceptance for the package.

So even though explicit causal assumptions about the primary measures can hardly be detected in any of the eight cases, they certainly played a more implicit part when putting the measures together in the different phases of the package design; either in the discussions with the stakeholders or when deciding on what should be part of the quantitative modelling. The lack of formal and explicit considerations of these issues is however striking in most cases, at least in the designing phase of the policy packages.

When it comes to best practices in Dimension 2, the elements are inherently present in each policy package, especially during the discussion and negotiation phase. The concept of primary measures and causal assumptions is, however, not yet institutionalised in the discussion process, and a more systematic approach could be beneficial. In doing so, the cases of congestion charging in Stockholm, the ITS Action Plan and the Clean Vehicle Directive stand out as particular good examples.

4.2.3 Dimension 3: Inter-measure interaction

Regarding the dimension “inter-measure interactions” it can be assumed that in all policy processes at least some rough assessments was conducted in relation to the selected criteria:

- Exploitation of potential synergistic relationships
- Mitigation of potential contradictory/redundant measures
- Skilful in incorporation of quantitative and qualitative assessment

Tools for assessment can be understood as a means for dealing with the other two criteria.

Looking at the outcomes, most cases are too fresh to judge if some redundant or contradictory relationships emerged after implementation. Therefore it is important to look at the methods and approaches that were used during the packaging process for an ex-ante reduction of redundant or contradictory measures. The use of qualitative and quantitative assessment tools is a central part of the documentation in several of the cases. A good practice is demonstrated in the ITS Action Plan, where it seems as if a very reflexive and transparent usage of tools and methods was applied. A careful arranged mixture of quantitative modelling, working with scenarios and integration rather qualitative approaches

such as stakeholder consultation was used for an ex-ante detection of potential redundant and contradictory measures. The process is well documented and appears as thorough and comprehensive analyses of the package and its effects. It can be argued that, in a similar way, in the Action Plan on Urban Mobility an extensive stakeholder consultation was used to avoid redundant and contradictory measures. The written consultation process was based on the Green Paper on Urban Transport. However, in the documents on the action plan there are no hints that modelling or similar tools were used. No clear analysis of distributional effects is mentioned.

Making use of synergies is at the very heart of all policy packages, the question rather is how a success can be anticipated ex-ante. Perhaps in the congestion charging cases it is most obvious that the primary measure needed to be accompanied by secondary measures such as improvements in public transport. There was a need to prove that there are indeed synergies to get public acceptance for the package. So, in the congestion charging cases reflections about contradictory, redundant or synergistic relationships are a central point in the debate about the pros and cons of the packages. In general, in these cases rather precise analysis of effects of measures and their combinations, including distributional effects, were conducted since such analyses were needed for the argumentation in the public and political debates about the packages. It could be argued that the real as well as the anticipated resistance against the measures triggered the quality of assessments. In other words: there was a certain danger that inaccurate usage of assessment tools would have become subject of public debate rather quickly. In the Stockholm case, modelling work was reported in technical reports etc. There was an analysis of the potential effects on travel behaviour and time consumption for different groups. Modelling based simulations were also applied in preparing the London scheme. A monitoring programme was conducted to anticipate impacts on different societal groups, business, public services schools etc. In both cases, the impact of construction areas in the congestion zones on the effectiveness of the schemes was an issue.

The case of the HVF is, to a certain extent, comparable with the London and Stockholm schemes, since it can be understood as a larger scale version of congestion charging for trucks which is accompanied by improvements for alternative modes (rail). Because of the focus on trucking, the accessibility for private person is not reduced but rather improved, but still there was an extensive public debate which means that facts and arguments were scrutinised heavily. So, an assessment of the interaction between measures was an important element in the process. Distributional effects were part of the discussion process and content of different studies. Different scenarios were calculated to examine potential impacts. Far-reaching stakeholder consultation provided for another forum to debate interactions between measures; a number of referenda set the basis for the HVF.

The case on the Clean Vehicle Directive is also based on assessments that provide for an exploitation of potential synergistic relationships as well as for a mitigation of potential contradictory/redundant measures. The directive was systematically checked in relation to other policy programmes, directives, community programmes and Euro norms which is described in the document. Different scenarios were analysed in an impact assessment analyses. A wide stakeholder consultation was integrated in the packaging process;

stakeholders explicitly assessed a range of proposed measures in relation to effectiveness, efficiency and consistency.

In the other cases the information about the tools and methods used for the assessment of synergies or redundancies is not that easily accessible. The case of the Governmental Transport and Environment Scheme used modelling to assess transport growth rates in the respective areas. The policy process itself was characterised by conflict and bargaining between different actors, so there was a sort of deliberative activity to assess the effects of measures and their combinations. However, there was not a systematic or at least transparent discussion documented on redundant or contradictory measures. In the case of Rail Interoperability the assessment of inter-measure interaction did not play a prominent role. No activities for minimising the presence of redundant and contradictory measures can be found in the documents. The same is true for an exploration of synergistic relationships. As in the other cases, such reflections must have been part of the planning process at some stage but they are not explicitly mentioned in the available documents.

Best practices according to Dimension 3: ITS Action Plan, the Clean Vehicle Directive, and London and Stockholm congestion charging scheme.

4.2.4 Dimension 4: Policy design, technical and financial considerations

In this section we look into the criteria related to technical and financial viability as well as stakeholder engagement as part of the policy design process. In all cases, except for the Stockholm policy package, a large number of stakeholders were involved in the discussion process prior to decision-making¹⁶. In most of the other cases, packages are result of incremental processes involving many actors affecting objectives and primary measures. The process leading to the design and adoption of the Danish T&E scheme was mainly born in a process of intra- and inter-ministerial and political negotiations—reflecting the fact that public authorities are important stakeholders. London and Stockholm used involvement in a wider sense—although at different stages—strategically to get acceptance for the overall objectives and measures, but did not open up for negotiations on these main objectives and primary measures.

Consultation for EU policies took different forms and played important roles in the whole process. For the national policy packages this involvement also depended on the political system and differed considerably, ranging from no consultation at all to repeated referenda. In general, stakeholder involvement processes played an important role in forming public opinion and avoiding previously unforeseen unwanted effects and consequences. On the other side, stakeholders evidently also pursue their self-interests. Opposition, rent seeking etc. by important stakeholder can easily hamper the process or cause the final policy package to be sub-optimally designed.

A diverse array of political and institutional actors is involved in the implementation of the rail interoperability directive. The EC and its associated bodies formulate and issue recommendations and directives; this legislation is transposed and implemented by Member

¹⁶ Although Stockholm's failure to involve stakeholders violates our criteria for good practice of policy packaging, we will show in the next section that it effectively addressed the barriers question.

States' national governments; manufacturers and other industrial stakeholders are involved as they are responsible for designing and manufacturing suitable rolling stock and new interoperability-supporting technologies; operators are involved in managing services and rolling stock; and it is infrastructure managers who must build and maintain the infrastructure.

Quantitative assessment played an important role for most policy packages, both the EU and the national ones. Good examples include Stockholm, where substantial quantitative assessment tools were used based on extensive travel surveys made for the purpose; the Clean Vehicle Directive, where assessments (CBA; EIA) were used extensively, aimed at a quantitative estimation of the impacts produced in alternative scenarios for the public fleets' procurement all over the EU-25 area; and the ITS Action Plan, where TRANSTOOLS was used to generate quantitative input for estimating the effects of implementing the various policy options.

In some of our cases it is too early to judge whether anticipated costs and, where applicable, revenues were correctly calculated. In other cases, especially the national ones, both costs and revenues were either as expected as or even better than expected (notably in the HVF example where cost estimates were correct). In the other cases there is no documentation relating to any significant cost overruns. The development of revenues depends on many factors which cannot be anticipated, as for instance the general economic development. This also applies to other effects such as reduced emission, congestion, and so forth. However, this effect did not always last, as in London where congestion levels are back to their pre-charging levels.

The technical implementation, where applicable, worked in all selected cases very well, and did not meet with considerable problems during the implementation phase.

Best practices in involving stakeholders – despite its challenges related to stakeholder opposition and rent-seeking hampering the processes – can be identified in several of our cases. All EU policy packages are prominent examples that stakeholder involvement is emphasised and taken seriously. The Danish T&E scheme successfully involves important public stakeholders at different levels. The charging schemes in London, Switzerland and Stockholm have consulted stakeholders at quite different stages. Both the London and Stockholm can be seen as best practice of successful implementation of a highly unpopular policy measure. The HVF scheme stands out as one which successfully involved stakeholders both during the design and the implementation phases.

4.2.5 Dimension 5: Barriers and unintended effects

In this section we consider ex-ante mitigation of barriers and unintended effects, and the degree of ex-post flexibility. Among the barriers reported from the eight policy packages are the protests and opposition to the charging schemes more prominent. The barriers were, however, managed quite differently - besides adjusting the policy. In the London case the new Mayor was elected on a political platform that included the congestion charging scheme, and he further avoided a public inquiry before the scheme was introduced. In Stockholm the opposition was also partly managed by avoiding a too democratic process leading to the trial scheme. The referendum afterwards provided the sufficient legitimacy.

Also in Switzerland referendum for the HVF provided sufficient legitimacy to halt protests. The introduction of the HVF is the result of a long process. Due to the different decision making process employed in Switzerland compared to other countries in Europe, however, the process cannot be directly transferred. The referenda certainly helped to justify the introduction of the policy, especially as strong opposition was encountered before the 1998 vote. But once the decision had been taken to introduce the HVF, administration, industry and trucking companies worked together to ensure a timely introduction and technological sound system.

Hypothecation of revenues in London and Stockholm schemes, i.a. to support public transport improvements¹⁷, and HVF to support rail infrastructure, stand out as important examples of ways to increase the public acceptance of such schemes.

Some of the EU policy packages experienced resistance before publication and some were delayed. In case of long-running policy packages, such as the one on Rail Interoperability, barriers which were and are encountered are due to changes in the institutional bodies involved, in technological changes and in political developments, such as the liberalisation of rail. The complexity of the European schemes represents in itself a barrier of which the main effect is to delay the policy design and implementation processes. The splitting up of the various elements of the package into more manageable packets or incremental packages, as in the Directives on Rail Interoperability and Clean Vehicle Directive, is among the actions that have reduced this problem.

Review of a policy package after implementation offers the opportunity to adapt the implemented policy. However, there eight cases demonstrate varying degrees of focus on ex post monitoring and ex post flexibility. Clearly, fragile political compromises like the Stockholm case are less easily changed than are, for example, the less binding action plans.

The unintended effects reported from the eight cases reflect the fact that transport policy is complex and affects and is affected by other policy domains, as elaborated in Optic's deliverables 2 and 3 (DLR and KIT, 2010; TØI et al., 2010). As an example, health effects were reported in London and Stockholm (improved due to increased walking/cycling; reduced due to more MC and bicycle accidents and partly also for bus drivers).

Three of the EU policy packages will be reviewed in the coming future. The Clean Vehicle Directive will be reviewed every two years. Both EU Communications will undergo a review and the Directive on Rail Interoperability is an on-going evolving policy. On a national level the examples for UK and Switzerland undergo regular reviews and the Stockholm example was reviewed by local authorities both during the trial period and after the permanent system was introduced.

The Directives (rail interoperability and clean vehicle) emphasise flexibility. The Directive on Rail Interoperability exhibits ex post amendments and provides flexibility in national implementation. As for the Clean Vehicle Directive, rules for exemption (e.g. of minor purchases) are made part of the directive in order to facilitate flexibility in implementation.

¹⁷ In the case of Stockholm the use of revenues however changed when the permanent system was introduced. Since 2007, revenues are earmarked for new road infrastructure in the region.

Different kinds of rebound effects are reported and/or anticipated, and it is evident that they are being addressed, ex-post, to various degrees. In Stockholm the exemption for alternative fuel vehicles was considered to jeopardise congestion benefits. The exemption was removed partly in order to avoid large volume increases of such vehicles. In London, when congestion levels were on the rise again, the charge was increased. However, as shown above, congestion is nevertheless back to pre-congestion charging levels. Regarding the ITS Action Plan, there is concern that all benefits of ITS, such as reduced congestions, lower fuel consumption/costs, better reliability or improved safety enhance the attractiveness of driving. This might result in higher road transport demand both for passenger and freight (induced traffic). However, this potential problem is yet to be addressed.

From the above, it can be stated that all eight packages were good cases of addressing barriers prior to implementation. Although the approaches are strikingly different, all cases handled such barriers well given their specificities and circumstances. Only the time element of the European policy packages appears insurmountable. European policy packages experience delays and postponements and we have seen no excellent example of how this has been successfully addressed.

As for good practices of ex-post package flexibility and adaptability, the Directive on Rail Interoperability demonstrates ability and willingness to monitor and adapt accordingly.

4.3 Best practice in policy packaging

Goals achievement is of course a central criterion for the measurement of success. However, it is not a sufficient condition since goals can be achieved in ways that are incompatible with, e.g., basic democratic principles. Moreover, it is deceptive to judge a policy package as success if the targets were set too low.

All selected cases have identified objectives to be achieved by the respective policy package and hence meet dimension 1 (objectives and goals). Depending on the type of policy package, not all of them can be quantified to allow a clear evaluation of goal achievement. None of the goals are in conflict with those of existing policies and in many cases support them, especially where environmental policies are concerned. This dimension, however, is best considered in the Clean Vehicle Directive, the ITS Action Plan, and in the Directive on Rail Interoperability, and to a lesser extent in the HVF and in the Danish T&E scheme.

Dimension 2 (primary measures and causal assumptions) is inherently present in each policy package, especially during the discussion and negotiation phase. However, written documentation is systematically missing. The concept of primary measures and causal assumptions is not yet institutionalised in the discussion process but could help the communication, decision and documentation process. In all policy packages a number of alternatives were examined in the forefront of the decision making process, however, a more systematic approach could be beneficial. Best practice examples for this dimension are the Stockholm congestion charge, the ITS Action Plan and the Clean Vehicle Directive.

Regarding dimension 3 (inter-measure interaction) a profound analysis of inter-measure interaction played a significant role in many cases. In the packages related to charging, interactions were examined in detail, including quantitative assessments. Extensive

quantitative assessments were also conducted in the case of the ITS Action Plan, in the HVF case and in the Clean Vehicle Directive. In the other cases, this interaction was more examined in a qualitative level. A careful integration of the stakeholders is used in European cases to anticipate barriers and unintended effects, to increase acceptance and, thus to improve the results the interventions. Best practice examples for this dimension are the ITS Action Plan, the Clean Vehicle Directive and the London and Stockholm congestion charge cases.

The policy design processes (dimension 4) were very different depending on the type of policy package. Stakeholder involvement was emphasised in all policy packages. In the London and Stockholm example the general public was involved at later stages than in the other cases. The process employed also depends on the different legal systems for the national packages.

With respect to dimension 5 (barriers and unintended effects) each policy package showed some aspects of ex-ante mitigation of barriers and unintended effects and where necessary, the package designs were flexible enough to react to them after implementation.

Based on the analysis carried out in chapter 4.2, the Clean Vehicle Directive fulfils most of the indicators for best practice. This is also true for the Directive on Rail Interoperability and the HVF. However, each policy package exhibits aspects of best practice in more than one of the dimensions.

5 Revisiting the policy packaging framework: key success factors

Above, we have tested the performance of eight real life policy packages with respect to a predefined set of dimensions that were established in previous Optic research. Here, we turn this upside down and look at crucial element of real-life packaging processes which are not properly addressed in the framework for policy packaging so far. In doing so we look at dimensions that

- a) Are not currently part of the policy packaging framework, or
- b) Appear less important than others for a well-functioning policy packaging process

5.1.1 Important dimensions not currently part of the policy packaging framework

In addition to the dimensions of the policy packaging framework, formulated by TSU Oxford et al. (2010) and modified in DLR and KIT (2010), we can identify a number of additional aspects which have been of relevance for the policy packaging processes in the eight cases. These aspects can play important roles and should be considered as additional considerations during the policy packaging design.

Window of opportunity

There is ample evidence—in our case studies and in the general literature—that the success of an intervention can heavily rely on its timing. Some examples from our cases are provided below. Timing is, of course, not easily included in a general framework or guideline for policy making. However, there are several examples that existing plans and feasibility studies have been successfully “pulled out of the drawer” at the right moment. To be able to exploit a window of opportunities there usually needs to exist—on beforehand—such plans and evaluations.

Swiss HVF: The introduction of the HVF was supported by certain developments, such as the wish of the EU to increase the weight limits for trucks from 28 to 40 tonnes and its subsequent agreement to road charging in Switzerland based on external costs. In addition the ground was already prepared by the decision of introducing a heavy good vehicle fee in Switzerland (although only a flat fee at the beginning), increased environmental concern and ever increasing number of trucks crossing the Alps. All these factors opened a window of opportunity which supported the introduction of the HVF.

Danish T&E Scheme: A window of opportunity was opened by the negotiations connected with the Government's Transport Action Plan for Environment and Development in 1989. This allowed the introduction goals and measures in the policy package for which the Spatial Planning Agency had argued for some years.

Stockholm congestion charge: A shift in political power both on local level in Stockholm and national level in Sweden in 2002 offered a chance to push for a decision to implement congestion taxation.

The examples show that a window of opportunity can provide quite different grounds, all supporting the introduction of beforehand discussed or conflictive policies. These supportive factors are triggered by a) the evident urgency of taking a policy action (environmental concerns, congestion); b) an already existing legacy framework where additional policies may “fit in”; and/or c) a shift in political power or an economic crisis can provide a ground for introducing a controversial policy package.

Allow for enough time for the process

Policy formulation and implementation takes time. The policy packaging processes which we have studied took years, in some cases even decades. This is true in particular for the EU policy packages, where it is evident that technical, legal and structural changes affect the setting of policy objectives and, thus require a substantial amount of time – as in the Railway interoperability case. Frequently, the necessary amount of time is grossly underestimated. The publishing of the action plan on urban mobility was, for example, delayed several times and finally published in September 2009; a year later than planned. Likewise, the Clean Vehicle Directive is an outcome of a development process of at least four years. For a good process of policy packaging additional time for unforeseeable events should be incorporated and ideally flexibility in timing should be taken on board. It is not clear which actors might intervene, which arguments will be in the discussion, which unintended effects will be anticipated that might, in turn, require further action (e.g. to make new calculations, to include another policy measure into the package).

Entrepreneurship or specific actor constellations

The involvement of individual can have an important influence on the introduction of a policy package. Mayor of London was a driving force and was elected on a political programme which included the London congestion charge. The Stockholm case however tells a different story than the London case. Instead of having a strong Mayor who had been elected with a political platform that included congestion charging, and who had all the legal powers that were required to implement the congestion charge, the Mayor of Stockholm, Annika Billström, had a much more difficult position. Before the election in September 2002, she had promised to *not* implement congestion taxation during the term of office 2002 - 2006. But since the election did not result in a majority position for the Social democrats, she needed to negotiate with the Green party and the Left party both locally in Stockholm and at the national level. The congestion tax was the direct result of these negotiations. Moreover, there was no legal framework that could support the implementation of a congestion charge. There was a need to formulate a completely new national legislation. The process involved immense challenges both in terms of collaboration between key administrative bodies and in terms of time-pressure. In addition, the collaboration between the involved political parties was sometimes difficult, and the process also faced big acceptance problems. Still however,

the Stockholm congestion charge was implemented successfully, against all odds, and it even gained public support in the end.

The role of referenda and trials

The Swiss and Swedish examples show that referenda can help justify, or facilitate, an otherwise unpopular policy package. In Switzerland it helped to bring all parties together to work constructively on the implementation of the policy package once the final decision had been taken. In the Stockholm example, a referendum was carried out after a trial period. The possibility of making use of trials will, of course, depend on the type of policy that is to be designed as are the validity and technological limitation of such a trial. Referenda always bear the risk of unintended outcomes or the linkage to political issues not related to the policy package. However, if successful they can greatly help support the implementation process.

Trade-offs between dimensions

There can be conflicts between dimensions in the policy packaging framework. An obvious example is a trade-off between effectiveness of an intervention and acceptability. Prominent examples are the pricing schemes, which are in general easy to implement technically but less effective if the fee for entering the charging zone is low, or the revenues are earmarked for (road) transport purposes. Hence, although achievement of stated goals and objectives is important it may be necessary to adjust policies in order to achieve other goals (like acceptance, environment, welfare, re-election, and so forth), although it may reduce efficiency of an intervention. This need for trade-off between purposes is ubiquitously present in real, political policy making, and one may argue that the policy packaging framework should acknowledge this more explicitly.

Primary measure can be politically difficult to change

As discussed above, the choice of the primary intervention, or measure, can quite often be the result of political negotiations. Quite often, therefore, it was observed during the analysis that the process of designing a package of policies, however flexible and adaptive, rarely leads to replacements of primary measures. Only their intensity (e.g. charging level, not charging in itself) is usually subject to negotiations or amendment during the remaining design and implementation processes – and also ex post. Additional measures, on the other hand, which can have a more explicit role to satisfy stakeholders, or improve effectiveness of a primary tool, appear to a larger extent to be subject to negotiations. That has been the case of many of the supporting measures in the cases we have studied. For example we have seen that public transport provision, which mainly supports congestion charging schemes, is subject to ‘give and take’ during the design and implementation of the packages.

Risk, uncertainty and irreversibility

Our eight case studies can document that failure to manage various types of risk and uncertainty in a proper way can have negative impacts: uncertainty over costs has discouraged local authorities in Denmark to take out the full potential of the Danish T&E scheme; uncertainty over future amendments of the rail interoperability specifications makes manufacturers reluctant; for the HVF, during certain stages of the policy design process there were considerable uncertainties concerning the outcome of future referenda; etc.

On this background, and inspired by TØI et al. (2010), there is a need to address more explicitly how issues of risk and uncertainty can be integrated into the planning process, both ex-ante and ex-post. This includes ex-ante analysis of potential causes of risks, uncertainties and unintended effects; the salience of irreversibility, path dependency and lock-in effects; and the need for comprehensive ex-post monitoring and 'adaptive' planning processes which together facilitate targeted remedial action.

The order of the phases, or dimensions, can be flexible

The policy packaging framework, as it is developed by Oxford TSU et al. (2010) and DLR and KIT (2010), can, at a first glance, be understood as a recommendation for the order of actions of a policy packaging process. Hence, there is a need here to emphasise the fact that it is a framework that is able to give orientation, but it is not a recipe. Despite the fact that the dimensions are numbered, there is no underlying requirement that they happen in this order. Ideally—of course—and in a fully rational world, values, aims, targets and objectives should for example be stated before the choice of intervention or measures is made. In real life, however, policy packages can very well be a fragile political compromise, as in the Stockholm case, which are traded and negotiated through completely different channels than a well-structured, transparent and participatory policy packaging process. What was observed during the analysis, and which gives support to the framework, is that many of the successful aspects of the packages can be traced back to adhering to the dimensions covered in the Optic policy packaging framework.

5.1.2 Identifying crucial factors for each policy package

For each policy package we can identify different success factors (see Table 5-1). Each policy package analysed exhibited specific factors that led their introduction. We see that each policy package exhibits specific and quite different factors that made them succeed. It can be seen that all except one dimension of generic packaging framework is listed. The missing dimension is the one relating to primary measures and causal assumptions (dimension 1). However, this is not necessarily due to the fact that this is not important in the discussion and design process. Rather, it appears as this dimension is currently implicitly part of the discussion and design process and usually not explicitly stated in any documentation related to this process.

Policy package	Important success factors
London congestion charge	<ul style="list-style-type: none"> Commitment by Mayor of London Involvement of stakeholders Successful technical implementation Regular reviews
Stockholm congestion charge	<ul style="list-style-type: none"> Trial before a referendum was carried out Positive referendum Successful technical implementation
Distance related HVF	<ul style="list-style-type: none"> Long-time development Positive Referenda Public initiatives (Alpine Initiative) Window of opportunity (EU) Commitment by all parties involved Successful technical implementation Regular reviews
Danish T&E Scheme	<ul style="list-style-type: none"> Bargaining process Step by step decision making process Target achievement
Directive on railway interoperability	<ul style="list-style-type: none"> Relevancy of package acknowledgement by stakeholder Clear objectives Acknowledgement of complexity of issue involved and thus long time horizon
ITS Action Plan	<ul style="list-style-type: none"> Wide stakeholder consultation Broad impact assessment Clear and transparent documentation of impact assessment Diversity of potential measures
Urban Mobility Action Plan	<ul style="list-style-type: none"> Wide stakeholder involvement in design Acknowledgement of objectives of other policy domains Securing funding Respect for the principle of subsidiarity
Directive on Rail Interoperability	<ul style="list-style-type: none"> Wide stakeholder consultation Considered a wide range of measures, then narrowed down with scenarios and analysed with structural closed methods

Table 5-1: Identified success factors for each policy package

6 Summary and conclusion

The main goal of this report was to identify and describe best practices in package design and their success factors and draw general conclusions for the policy design process. As partial goals necessary for achieving of the main goal, a methodology for identifying successful policy packages was described, policy packages for analysis were selected and the analysis of these selected packages were performed. As the types of policy packages to be examined include both EU and national policy packages within the transport domain, the methodology must be general enough in order to be useful. Building on TSU Oxford et al. (2010) (policy measures and adverse effects) and DLR and KIT (2010) (tools for ex-ante assessment of synergies and adverse effects) a methodology was built that allows the systematic analysis of policy packages.

The identification of best practice cases is made difficult by the fact that we have no limitation as to the type of transport policy package that could be analysed, as long as it follows the definition of a policy package as given by TSU Oxford et al. (2010). This was taken into account when setting up the methodology for examining and systematically describing the policy packages from different perspectives. In the end there will not be one value or one criterion which can be used to determine if a policy package is best practice or not. In addition, the employed processes and the subsequent results will always be open to interpretation depending on the point of view one has. Even complete achievement of stated policy goals may not tell the whole story, as this might have happened at the costs of other groups, policy goals, and so forth. Bearing this in mind, the methodology provides a framework with which policy packages can be examined and systematically analysed and allows the analysis to identify the specific strengths and weaknesses of each package. Based on the systematic description of relevant categories of the policy making process and the subsequent results help build a case either for or against a policy package and a framework for subsequent discussions.

The methodology builds on the framework for policy package design developed by TSU Oxford et al. (2010). Here different phases of an 'ideal' policy packaging framework were described. Based on the template policy packages were systematically analysed and described. Important aspects included categories such as clear description of objectives and targets of policy package, selection of primary and secondary measures, relationship of policy package to other policies and policy goals, stakeholder involvement, financial and technical considerations, target achievement, encountered barriers and unintended effects, efficiency and effectiveness of the employ design process, and so forth.

On this basis, five key dimensions were identified for the analysis of the packages, for each dimension a set of criteria was used to support the analyses. It is unlikely, and did not occur in any of the 34 cases that a package is very strong in all these dimensions. Eight cases were selected for the analyses that showed a high performance in relation to several criteria. It was not possible to reach any kind of representatives in this project, but it was intended to cover to some extent the diversity in the 34 packages. Therefore, amongst the eight selected cases four dealt with policies on the national level and four dealt with policies on European level. The selection further was based on practical aspects such as the available information, maturity of project, perceived outcome, and so forth. Each analysis provided a detailed

description of the policy process employed and other factors, shown in the methodology. Based on this information, we made a qualified decision of whether the respective examples represented sufficient elements of best practices or not and, if applicable, in which category they were less successful. So, in the context of this analysis best practice also refers to parts of the design process of a policy package.

However, when comparing these cases, certain patterns become apparent, which they have in common, irrespective of whether they are EU or national policy packages. In general, enough time must be allowed for the design of the policy package. In some cases waiting for the right moment to introduce a political agenda is of an essence and is a part for which no general recommendation can be given. Other areas, such as stakeholder involvement, will take different form depending on the type of policy package but are essential to achieve satisfactory policy packages and also serve as a communication platform. Although primary measures are a starting point for defining a policy package, secondary measures are crucial for ensuring successful policy packages. In cases where it is difficult to communicate the impact of a policy package, trial runs have proven to be beneficial to show not only the benefit but also the consequences of introducing a policy package. In addition, scientific analyses and modelling exercises that examine impacts and consequences from different points of view are essential.

Further, by looking at the sample it can be observed that many – but not all – of the rather successful cases dealt with assumptions and relevant data for impact assessment in very open and transparent way (for example Stockholm, London, ITS Action Plan and HVF). Partly this was done to actively include stakeholders in the process of generating knowledge on potential impacts, partly this was forced by public interest and political debates. On the one hand, there might be a sort of bias in the sample since cases were preferred where data is available. On the other hand, due to these open and transparent procedures relevant data could be scrutinised by stakeholders and the interested public. So, there was a broad basis for assessing the quality of the measures in the packages. The OPTIC framework for policy packaging does already include elements that might improve real life packaging in this context, for example the causal mapping and the distributional effects. It will be a task of deliverable 6 to further elaborate on these issues.

The estimation of long lasting effects of a policy measure or package is inherently difficult. Care should be taken to state uncertainties associated with such estimates and mechanism already prepared which allow an adjustment of the chosen policies. This relates to regular reviews and monitoring after the introduction of a policy package. This not only adds credibility to a policy package but also helps take corrective measures if they should be necessary. The framework of how, when and by whom the review should be carried out should also be clearly stated in the policy description. Good documentation is also essential in order to be able to learn for future policy design processes.

The template developed here is built on a generic structure for policy package design designed by TSU Oxford et al. (2010). While the framework was useful to divide the packaging process into different parts, some aspects played a less important role than others. This refers especially to the differentiation of primary and secondary measures, which, while being relevant for the design process, are difficult to distinguish in an ex post analysis. This is the case for the identification and description of the iterative process that

takes place when the policy package is discussed and adjusted before reaching its final form.

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Appendix 1 Template used for analysis of policy packages

Analysis of Policy Packages to identify best practice in package design:

This template is a tool to allow a systematic analysis of different policy packages in a similar manner. It may be that not all questions may be appropriate for each policy packages, if this is the case this should be noted in the template.

For the analysis we want to look both the design process of the policy package and at the outcome, as far it is already known.

The template is divided into different parts which allow us to view the policy packages from different points of view. As no clear-cut definition of best practice exists and we are looking at very different types of policy packages, it is up to the analyst to argue why a specific policy package may be considered a best practice example in policy package design. So basically this template is mostly a systematic collection of arguments of why the policy package is best practice or not.

The dimensions we are looking at are as follows:

General description of the policy package

Dimension 1 – Objectives and goals

Dimension 2 - Primary measures and causal assumptions

Dimension 3 - Inter-measure interaction

Dimension 4 – Policy design process, technical and financial considerations

Dimension 5 – Barriers and unintended effects

Overall conclusions

In this context objectives are considered to be more general (e.g. increase road safety) while goals are more concrete (reduction of fatal accidents by 50 % until 2010).

Analysis of Policy Packages – <NAME>

General description of the policy package

Title of policy package
Author of policy package
Type of policy package
Legal basis
Date of publishing of policy package
Parties involved in preparation of policy package
Date of enactment of policy package
Date of amendments of policy package
Other issues related to policy package
References

Dimension 1 – Objectives and goals

What are the objectives of the policy package? Are they clear stated in the policy package
What are the goals of the policy package and have they been clearly operationalised (magnitude, time dimension, actors involved)?
Is it foreseen in the policy package the goals or measures will be reviewed and, if found necessary, adapted?
Have policy objectives and goals of other policy domains been acknowledged in the policy package?
Do the policy objectives and goals of the policy package contribute to the fulfilment of these policy goals and targets and, if so, was the expected extent of this contribution stated?

Dimension 2 - Primary measures and causal assumptions

Has a broad and diverse range of potential measures been examined before deciding upon the selected primary measure? Measures which have been examined:
Which primary measure(s) to influence our target(s) have been selected?
Were the reasons for selecting this primary measure made clear?
Have the tacit assumptions about the causal processes underpinning this decision been codified?

Dimension 3 - Inter-measure interaction

Have the interactions between all primary and additional measures been described?

If this is the case, how were described?

Have pre-conditional, facilitatory and synergetic measures been introduced or supported?

If this is the case, which measures were introduced?

Has the presence of redundant and contradictory measures been minimised?

If this is the case, how was this done?

Have distributional effects of the intervention been thoroughly analysed?

If this is the case, how was this analysed?

Have financial and technical implications of the intervention been thoroughly analysed?

If this is the case, how were they analysed?

Dimension 4 – Policy design process, technical and financial considerations

Did the design of the policy package follow a process that was known beforehand?

If this is the case what was it? What was the timing associated with these steps?

If this was not the case, can, in retrospect, the steps for designing the policy packages be identified

If this is the case what were these steps? What was the timing associated with them?

Stakeholder involvement

Which stakeholders were involved in the design of the policy package?

How were the stakeholders involved in the design of the policy package?

Were acceptance problems by the stakeholders encountered?

If this is the case, how was this managed?

Were quantitative assessments (modelling) tools used?

If this is the case, how what these tools?

Technical and financial considerations

Were the costs of the policy package correctly anticipated (in financial terms)?

If the costs were not correctly anticipated, how was this problem addressed?

If applicable, were revenues correctly anticipated?

If the revenues were not correctly anticipated, how was this problem addressed?

Did the implementation of the policy package meet with any technical difficulties not anticipated beforehand?

If this is the case, how was this problem addressed)

Dimension 5 – Barriers and unintended effects

During the introduction of the policy packages were any barriers encountered?

Was the package flexible enough to react to them and, if so, how was this carried out?

Were unintended effects encountered and if yes what were they?

Was the package flexible enough to react to them and, if so, how was this carried out?

Overall conclusions

Was the policy design process applied in for this policy package effective for arriving at the final policy package?

In which areas was it not effective in arriving at the final policy package? Where could improvements have been made?

Was the policy design process applied in for this policy package efficient for arriving at the final policy package?

In which areas was it not efficient in arriving at the final policy package? Where could improvements have been made?

Was the policy package effective in reaching the addressed policy goals and targets?

Which policy goals and targets could/could not be reached and to what extent?

Was the policy package efficient in reaching the addressed policy goals?

In which areas was the policy package very, partially or not efficient?

Can thus this policy package be considered best practice in view of package design and of target achievement and why?

Which conclusions can be drawn for policy package design in general from the presented example?

Appendix 2 List of identified policy packages

EU Policy Packages

Name	Type of document	Date of Introduction	Brief description of goals and why it is considered a policy package
European Road Safety Action Programme	Communication	2003	The communication lists a number of actions and programmes the EC wants to undertake to reduce the number of road accident victims in the EU by 2010 in accordance with the White Paper 2001
Single European Sky	Communication	1999 and on-going	Reform architecture of European air traffic control to meet future capacity and safety need
Action Plan on Urban Mobility	Communication	30.9.2009	The Action Plan proposes actions to be launched from now until 2012. The actions are centred on six themes and they will be implemented through existing EU programmes and instruments.
A sustainable future for transport: towards an integrated, technology-led and user friendly system	Communication	2009	The Communication summarises the results of wide reflection in four sections. Section 5 describes some available instrument and possible lines of intervention for achieving the stated objectives. The Communication want stimulate further debate aimed at identifying policy options to be formulated in the next White Paper 2010.
Freight Transport Logistics in Europe - the key to sustainable mobility	Communication	28.6.2006	The Communication will support establishing a framework strategy for freight transport. The next step will be an Action Plan for Freight Transport Logistics.
An integrated European Action Programme for Inland Waterway Transport, "NAIDES"	Communication	17.1.2006	The communication sets out an integrated action programme and defines concrete actions to fully exploit the market potential of inland navigation.
Harmonised river information services (RIS) on inland waterways in the Community	Directive	7.9.2005	RIS is aimed at the implementation of information services in order to support the planning and management of traffic and transport operations
An action plan for airport capacity, efficiency and safety in Europe	Communication	24.1.2007	The aim of the communication is to optimise the use of existing infrastructure, promote the use of technological developments, to improve safety and efficiency, and to improve the planning framework of new infrastructure
Action plan for the Deployment of Intelligent Transport systems in Europe	Communication	2008	The Action Plan aims to accelerate and coordinate the deployment of Intelligent Transport Systems (ITS) in road transport. The Action Plan outlines six priorities areas for action.

Regulation concerning a European rail network for competitive freight (proposal)	Regulation	11.12.2008	The regulation lays down the rules for the creation and organisation of the European rail network for competitive freight which is made up of international rail corridors for competitive freight.
Directive on the promotion of clean and energy-efficient road transport vehicle	Directive	23.4.2009	The Directive shall apply to contracts for the purchase of road transport vehicle
Regulation establishing the second Marco Polo programme for the granting of Community financial assistance to improve the environmental performance of the freight transport system	Regulation	24.10.2006	The Regulation establishes a financing instrument in order to reduce congestion, to improve the environmental performance of the the transport system and to enhance intermodal transport, thereby contributing to an efficient and sustainable transport system which provides EU added value without having a negative impact on economic, social or territorial cohesion.
Liberalisation of Rail	Directive	2001, 2004, 2007	White Paper on “a Strategy for Revitalising the Community’s Railways” in 1996 White Paper on Transport Policy for 2010 “First Railway Package” 2001 consisted of three Directives 2nd railway package 2004, third railway package adopted in October 2007 introduced open access rights for international rail passenger services including cabotage by 2010
TEN-T infrastructure aids	Different regulations and Commission Decisions	2006	The Trans-European Transport Network Executive Agency (TEN-T EA), established by the European Commission, is responsible for managing the technical and financial implementation of the Trans-European Transport Network (TEN-T) programme, one of the most important means of infrastructure funding. Its status as an Executive Agency means that although independent, the TEN-T EA is closely linked with its parent, Directorate-General Mobility and Transport (DG MOVE). DG MOVE deals with all policy-making issues related to the TEN-T programme, while the Agency exists to execute the programme's specific tasks with a limited duration (31 December 2015).
Regulating CO ₂ emissions from light duty vehicles	Regulation	2009	Objectives: http://ec.europa.eu/transport/infrastructure/index_en.htm
Rail interoperability	Regulation	2009	The creation of an integrated European railway area also calls for improved “interoperability” – or technical compatibility - of infrastructure, rolling stock, signalling and other rail systems, as well as less complex procedures for approving rolling stock for use across the European rail network.
First Railway Package	Directive	2001	open the international rail freight market, establish a general framework for the development of European railways

National Policy Packages

Name	Country	Type	Date of Introduction	Brief description of goals and why it is considered a policy package
Measures to reduce emission of particles	Austria	Regulations	2005 and on-going	Reduce particle emissions on different levels (industry, traffic, households), for traffic a number of different measures were introduced on a national and local level (tax bonus, driving restrictions, cleaner fuels, ...) - maybe these can be compared to similar actions in other countries and on EU level
Stockholm Congestion Charge	Sweden	Economic + Improved bus traffic	2006 and on-going	Goal was to reduce congestion and local emissions in central parts of Stockholm. Congestion charges were complemented by improved public transport.
Lund Sustainable Mobility strategy	Sweden	Several different measures	1999 and on-going	The goal was/is to achieve a sustainable transport system for the city of Lund (about 100 000 inhabitants). Several measures are applied to that end, for instance improved cycle paths, rental bicycles, improved public transport (especially bus traffic), eco-driving, car-pooling, effective distribution of goods.
Gothenburg Travel policy	Sweden	Local for employees	2002 and developing	Goal is to reduce environmental impact of travel by the employees at Gothenburg Traffic Department (So, it does not affect that many people). Measures include leasing bicycles, car-pooling, fewer parking lots, videoconferencing facilities.
Transport Policy of the Czech Republic for 2005-2013	Czech Republic	Resolution of the Government of the Czech Republic, No.882	13.7.2005	Transport Policy aims at the improvement of conditions to ensure quality transport services in regions and the whole territory of the Czech Republic, which should endeavour to establish a balance between the quality of public transport services and more reasonable utilisation of automobiles, which the possibility of influencing the modal split and the determination of objectively reasonable payments for the transport and the carriage.
Road traffic safety national strategy	Czech Republic	Resolution of the Government of the Czech republic, No. 394	28.4.2004	The national road traffic safety strategy analyses the development in the area of road traffic safety and proposes a number of actions to reduce the number of victims in the year 2010 to 650 (half of the victims in the year 2002).
Updating of the road traffic safety national strategy	Czech Republic	Resolution of the Government of the Czech Republic No. 1584	16.12.2008	The updating has been necessary since the goal in the year 2010 will not be achieved. The updating analyses the reasons of this situation and lists nine key actions, which are further elaborate on specific tools.
National cycling strategy	Czech Republic	Resolution of the Government of the Czech republic, No.678	7.7.2004	A national cycling strategy articulates common objectives and sets of specific, integrated.co-ordinated actions among the different ministries (Ministry of Transport, Ministry of environment, Ministry for regional development) and agencies (CzechTourism). It also demonstrates political will and commitment at the national level.

Basic principles of the Prague transport policy	Czech Republic	Resolution of the Prague local authority no.13/21	11.1.1996 and on-going	The document features basic principles of the transport policy, conception of the next development and main tasks like priorities for bus and tram, introduction of P + R system, fare and schedule integration, motorcar traffic regulation, renovation of public transport infrastructure, effective parking policy, integrated information system, innovation of traffic lights, stronger police enforcement, etc.
Distance-related Heavy Vehicle Fee (HVF) in Switzerland	Switzerland	Law	1.1.2001	Introducing distance-related fee, similar policy as Eurovignette (but earlier and on all roads) and at the same time new weight regulations for HGV to limit congestion and emissions.
Government programs for comprehensive urban transport plans	Denmark, UK, Norway	Legislation	1992	The policy package is a combination of information, partnerships and financial contribution to make municipalities provide local actions for transport & environment and by that contribute to attain national objectives.
Reward scheme for improved public transport and reduced use of car in cities	Norway	Incentive scheme	2004	Enhance public transport developments and reduce car traffic in the main urban areas.
London Congestion Charging scheme	UK	Regulation	2003	Congestion charging plus financing increased public transport services
Oslo packages I, II and III	Norway	Policy plan & regulation	from 1990s onwards	Packages of pricing of road vehicles, infrastructure investments, different modes, public transport operating costs and land use policies.
Competitive tendering	Norway	Regulations	1994	Introduction of competitive tendering in provision of local public transport, including compulsory takeover of employees
National Transport Plan	Norway	National Policy Document	2009	Provide five goals for the sector and proposed a complex set of measures and competing goals http://www.ntp.dep.no/2010-2019/index_10_19.html
CO ₂ -differentiation in vehicle and fuel taxation	Norway	Taxation and regulations	2007	To reduce CO ₂ - and other emissions from car fleet. Differentiated vehicle taxation and fuel taxes are dealt with as a package for achieving objective